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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,938	09/24/2003	Achintya K. Bhowmik	ITL.1014US (P16650)	4613
21906	7590	06/30/2005	EXAMINER	
TROP PRUNER & HU, PC 8554 KATY FREEWAY SUITE 100 HOUSTON, TX 77024			KIM, JOANNE H	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/669,938

Applicant(s)

BHOWMIK, ACHINTYA K.

Examiner

Joanne H. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/8/03.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "optical system coupled to said photoelastic medium" in claims 6 and 8 and the "piezoelectric actuator" in claims 10-14 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "a piezoelectric device" in claims 3-7; "controlling the voltage applied to said piezoelectric device" in claims 4 and 7; "an optical system coupled to said photoelastic medium" in claim 6; "said optical system" in claim 8; "a device to controllably stress" in claim 9; "a piezoelectric actuator" in claims 10 and 12; "a voltage source to control the amount of voltage applied to said piezoelectric actuator to enable tuning of the dispersion" in claim 11; and "a voltage source to controllably apply potential to said piezoelectric actuator" in claim 14.

3. The disclosure is objected to because of the following informalities: in claim 3, lines 2-3, "an optical medium" should be "the optical medium."

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: a structural cooperative relationship between "a device" and other elements in claim 9.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Chien et al. (U.S. Patent Pbu. No. 2002/0168165, hereinafter "Chien").

Regarding claims 1-8, Chien discloses a method comprising: applying stress to an optical medium to provide a desired dispersion compensation including a photoelastic medium to generate a corrective dispersion of the opposite polarity of a dispersion induced in the optical medium; using a piezoelectric device to generate stress in the optical medium; controlling the amount of stress and thereby the desired dispersion compensation by controlling the voltage applied to the piezoelectric device; and securing the photoelastic medium to the piezoelectric device and passing an optical signal through the photoelastic medium (Figs. 1-4; and paragraphs [0003], [0008]-[0010], [0012], [0041], [0042], [0045], [0047], [0050], [0052]). Chien also discloses a method comprising: securing a photoelastic medium to a piezoelectric device; applying a voltage to the piezoelectric device to induce a stress in the photoelastic medium appropriate to correct dispersion generated in an optical system coupled to the photoelastic medium; and controlling the voltage applied to the piezoelectric device to

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generate a dispersion of substantially the same magnitude and an opposite polarity of the dispersion generated in the optical system (Figs. 1-4; and paragraphs [0003], [0008]-[0010], [0012], [0041], [0042], [0045], [0047], [0050], [0052]).

Regarding claims 9-15, Chien discloses an optical system (400) comprising: an optical medium (305) defining an optical path; a photoelastic material in the optical path; a device (piezoelectric actuator) (307 or 402) to controllably stress the photoelastic medium to generate a dispersion of an appropriate polarity and magnitude to correct a dispersion induced in the optical medium, the piezoelectric actuator is coupled/secured to the photoelastic material; and a voltage source (406/402) to control the amount of voltage applied to the piezoelectric actuator to enable tuning of the dispersion applied through the photoelastic medium to provide a tunable magnitude and polarity of dispersion to cancel dispersion generated along the optical path by the optical medium (Figs. 1-4; and paragraphs [0003], [0008]-[0010], [0012], [0041], [0042], [0045], [0047], [0050], [0052]).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joanne H. Kim whose telephone number is (571) 272-2139. The examiner can normally be reached on 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joanne H. Kim  
Examiner  
Art Unit 2883

jhk/FGF



Frank G. Font  
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